

Assessment Plan: Animal Sciences (3 Options: Equine Science, Livestock Management and Industry, and Science)

Fall 2016, Pat Hatfield

Program Learning Outcomes

Our graduates will:

1. *design and evaluate animal management systems by synthesizing and applying knowledge of biological processes related to animals and the rangeland plants that support them. [knowledge]*
2. *identify and critically evaluate scientific or technical animal science content to make informed decisions providing a foundation for lifelong learning. [critical thinking]*
3. *demonstrate effective oral and written communication to a range of audiences and within collaborative environments. [communication and collaboration]*
4. *use scientific principles to formulate questions, explore solutions, and solve real-world problems and advocate based on science. [problem solving]*
5. *be able to actively engage in discussions of complex ethical issues in their profession. [ethics]*
6. *demonstrate animal husbandry and plant identification skills. [skills]*

Curriculum Map

<add courses in curriculum, mark with **I** (introduce), **D** (develop), **M** (mastery) >

	Cr	Outcomes					
		1	2	3	4	5	6
AGSC 342 Forages		D	M	D	D		
ANSC 205 Introduction to Meat Evaluation							
ANSC 215 Calving Management		I	I	I	I	I	
ANSC 222 Livestock in Sustainable Systems		I	I		I	I	I
ANSC 232 Livestock Management Sheep		I	I		I	I	I
ANSC 234 Livestock Management Beef		I	I		I	I	
ANSC 308 Livestock Evaluation			I	I	I		I
ANSC 316 Meat Science		D	M	M	D	I	I
ANSC 320 Animal Nutrition		D	D	I	I	I	M
ANSC 321 Physiology of Reproduction		D	D	D	D	I	
ANSC 322 Principles of Animal Breeding and Genetics		D	D	D	D	I	
ANSC 337 Diseases of Domestic Livestock		D	D	D	D	D	
ANSC 410 Veterinary Entomology							
ANSC 416R Meat Processing		M	M	M	M	M	M
ANSC 418 Topics in Beef Cattle Nutrition		M	M	D	D	D	M

ANSC 421 Assisted Reproductive Techniques		D	D	D	D	D	M
ANSC 432R Sheep Management		D	M	M	D	D	
ANSC 434 R Beef Cattle Management		M	D	D	D	I	
ANSC 436 Professional Development in Beef Sciences		D	D	D	D	D	
ANSC 437 Professional Development in Feedlot Systems		D	D	D	D	D	
ANSC 498 Internship		D	D	D	D	D	
BIOM 405 Host-Associated Microbial Ecology		D	D	M	D	D	
EQUH 110 Western Equitation		I	I	I	I	I	I
EQUH 114 English Equitation		I	I	I	I	I	I
EQUH 207 Intermediate English Equitation		D	D	D	D	D	D
EQUH 210 Intermediate Western Equitation		D	D	D	D	D	D
EQUH 233 Horse Science and Mgmt Lab		I	I	I	I	I	I
EQUH 253 Starting Colts		D	D	D	D	D	D
EQUH 256 Developing the Young Horse		D	D	D	D	D	D
EQUH 314 Equestrian Instruction Methods		D	D	D/M	D/M	D	D
EQUH 314 Equestrian Instruction Methods		D	I	I	I	I	I
EQUH 327 Equine Lameness		D	D	D	D	D	D
EQUH 346 Equine Reproduction Management		D	D	D	D	D	D
EQUH 347 Form and Function							
EQUH 410 Equine Exercise Physiology		D	D	D	D	D	D
EQUH 423 Equine Nutrition		M	M	D	D	D	M
EQUH 430 Horse Management							
NRSM 101 and 102 Natural Resource Conservation		I	I	I	I	I	
NRSM 235 Range and Pasture Monitoring		D		D		D	
NRSM 236 Small Pasture Management							
NRSM 240 Natural Resource Ecology		I			D		
NRSM 353 Grazing Ecology and Management		D	D	M	D	D	
NRSM 453 Habitat Inventory and Analysis				M		D	
NRSM 455 Riparian Ecology and Management		M	M	M	M	M	

Student Performance: Data Sources

Assignments such as quizzes, papers, lab assignments, presentations that are embedded in the following courses will serve as the source of data to assess the six outcomes.

	Cr	Outcomes					
		1	2	3	4	5	6
ANSC 316 Meat Science			X	X			
ANSC 416R Meat Processing (presentation)				X	X		
ANSC 432R Sheep Management			X	X			
ANSC 434 R Beef Cattle Management		X					
ANSC 418 Topics in Beef Cattle Nutrition Or EQUH 423 Equine Nutrition		X					
ANSC 421 Assisted Reproductive Techniques		X	X	X	X	X	X
BIOM 405 Host-Associated Microbial Ecology (quizzes, papers, lab assignment, hyp gen exam quest)		X	X	X	X	X	?

Response Threshold

At least 80% of students will be rated “Acceptable” or higher on assessments for each individual learning outcome.

Schedules

Outcomes

Outcome	Year					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
1	X			X		
2	X			X		
3		X			X	
4		X			X	
5			X			X
6			X			X

Process for Assessing the Data

Annual Assessment Process

1. Data is collected from identified courses.
2. Random samples of collected assignments are scored by two faculty members using prepared scoring rubrics.
3. The assessment coordinator tabulates the scores. Areas where the acceptable performance threshold has not been met are highlighted.
4. The scores are presented to the faculty for assessment.
5. The faculty reviews the assessment results, and makes decisions on how to respond.
 - If an acceptable performance threshold has not been met, a faculty response is required. Possible responses:
 - Gather additional data next year to verify or refute the result.
 - Change something in the curriculum to try to fix the problem.
 - Change the acceptable performance threshold.
 - Choose a different assignment to assess the outcome.
 - Faculty can respond to assessment results even if the acceptable performance threshold has been met.
 - It is OK to determine that changes are not needed when students are demonstrating proficiency with each learning outcome.
6. A summary of the year’s assessment activities and faculty decisions is reported to the Provost’s Office in your Department’s Annual Assessment Activities report.

2017 Assessment Results of Animal Science Majors

Department of Animal and Range Sciences

Dr. Tim DelCurto and Dr. Jan Bowman

In the spring of 2017, the Faculty of the Animal Science major met to formulate a plan to assess the program. This document is a report of our findings.

Methods:

After the curriculum mapping exercise, we chose to assess learning outcome #1, Knowledge, in ANSC 434 Beef Cattle Management (Fall semester 2016); and learning outcome #2, Critical Thinking, in ANSC 316 Meat Science (Spring semester 2017). We randomly selected student writing assignments to assess; 9 of the "Semester Project Scenario" assignment from ANSC 434, and 11 of the "Analysis of Food Intake" from ANSC 316. One assignment from ANSC 316 was excluded from consideration as the student had plagiarized and was given a zero on the assignment by the instructor. We used rubrics from FIU for Assessment of Subject Content Knowledge (for ANSC 434), and Assessment of Critical Thinking (for ANSC 316). These rubrics were modified to a scale from 1-3 (Appendices A & B). An average score that was below a 2 was considered not "Acceptable," and any average score of 2 or above was considered "Acceptable."

Results:

The results of our assessment are presented in Table 1. On the selected assignment, 89% of the students in ANSC 434 were considered acceptable for knowledge. This was slightly above our expected rate of 80%. On the selected assignment, 90% of the students in ANSC 316 were acceptable for critical thinking, which was also above our minimum level.

We identified some common mistakes related to our student's skills:

1. Students did not identify and respond completely to specific assignment requirements.
2. Students did not properly cite sources.
3. Students were not able to identify credible sources of information.
4. Students were not familiar with journal manuscript style or format.
5. Students were not able to put researched information into their own words.

We also identified some possible solutions:

1. Incorporate more writing assignments in Animal Science courses.
2. Provide example papers, grading rubrics and the common mistakes of most papers.
3. We need to do a better job of articulating the assignment expectations and standards.

Future Assessment Considerations:

We felt that the specific assignments selected for assessment did not adequately fit the program learning outcomes. Future assessments need to be more purposeful when selecting assignments.

Table 1. Department of Animal & Range Sciences Assessment of Animal Science Major
Spring 2017

Knowledge (ANSC 434)			
Scale: 1-3; 1 = not acceptable, 2 = acceptable, 3 = exceeds acceptable			
Paper Number	Reviewer 1	Reviewer 2	Average Score
1	2	2.25	2.13
2	3	2.5	2.75
3	2	2	2
4	3	2	2.5
5	2	2	2
6	3	3	3
7	2	2.25	2.13
8	1	1.75	1.38
9	3	2.5	2.75
Total Mean:			2.29

Critical Thinking (ANSC 316)			
Scale: 1-3; 1 = not acceptable, 2 = acceptable, 3 = exceeds acceptable			
Paper Number	Reviewer 1	Reviewer 2	Average Score
1	2	2.25	2.13
2	2	2.5	2.25
3	3	2.5	2.75
4	2	2.25	2.13
5	3	2.5	2.75
6	2	1.75	1.88
7	2	2	2
8	3	2.5	2.75
9	2	2	2
10	2	2.5	2.25
Total Mean:			2.29

Any average score below a 2 is not a passing score

Learning Outcome: Knowledge

89% of papers met minimum standards (pass)

11% of papers did not meet minimum standards (fail)

Learning Outcome: Critical Thinking

90% of papers met minimum standards (pass)

10% of papers did not meet minimum standards (fail)

Appendix 1

Department of Animal & Range Sciences
Animal Science Assessment - Spring 2017

Rubric for the Assessment of: **Knowledge**

1 = not acceptable; 2 = acceptable; 3 = exceeds acceptable

Indicators of Subject Content Knowledge	1	2	3	Score
Investigate and Research	Little inquiry; limited knowledge shown	explores topic with curiosity; adequate knowledge from variety of sources displayed	Knowledge base displays scope, thoroughness, and quality	
Examine & Identify the problem/question	Does not identify or summarize the problem/question accurately, if at all	the main question is identified and clearly stated	The main question and subsidiary, embedded or implicit aspects of a question are identified and clearly stated	
Analyzes and Synthesize: Identifies and evaluates the quality of supporting data/evidence; detects connections and patterns	no supporting data or evidence is utilized; separates into few parts; detects few connections or patterns	Evidence is used but not carefully examined; source(s) of evidence are not questioned for accuracy, precision, relevance and completeness; facts and opinions are stated but not clearly distinguished from value judgments	Evidence is identified and carefully examined for accuracy, precision, relevance, and completeness; facts and opinions are stated and clearly distinguished; combines facts and ideas to create new knowledge that is comprehensive and significant	
Constructs & Interprets: Identifies and evaluates the conclusions, implications, and consequences; develops ideas	combines few facts and ideas; needs more development; conclusions, implications; consequences are not provided	Accurately identifies conclusions, implications and consequences with a brief evaluative summary; uses perspectives and insights to explain relationships; states own position on the question	Accurately identifies conclusions, implications, and consequences with a well-developed explanation; provides an objective reflection of own assertions	
			TOTAL:	

Appendix 2

Department of Animal & Range Sciences
Animal Science Assessment - Spring 2017

Rubric for the Assessment of: **Critical Thinking**

1 = not acceptable; 2 = acceptable; 3 = exceeds acceptable

Indicators of Subject Content Knowledge	1	2	3	Score
Investigate and Research	Little inquiry; limited knowledge shown	Explores topic with curiosity; adequate knowledge from variety of sources displayed	Knowledge base displays scope, thoroughness, and quality	
Examine & Identify the problem/question	Does not identify or summarize the problem/question accurately, if at all	the main question is identified and clearly stated	The main question and subsidiary, embedded or implicit aspects of a question are identified and clearly stated	
Analyzes and Synthesize: Identifies and evaluates the quality of supporting data/evidence; detects connections and patterns	no supporting data or evidence is utilized; separates into few parts; detects few connections or patterns	Evidence is used but not carefully examined; source(s) of evidence are not questioned for accuracy, precision, relevance and completeness; facts and opinions are stated but not clearly distinguished from value judgments	Evidence is identified and carefully examined for accuracy, precision, relevance, and completeness; facts and opinions are stated and clearly distinguished; combines facts and ideas to create new knowledge that is comprehensive and significant	
Constructs & Interprets: Identifies and evaluates the conclusions, implications, and consequences; develops ideas	combines few facts and ideas; needs more development; conclusions, implications; consequences are not provided	Accurately identifies conclusions, implications and consequences with a brief evaluative summary; uses perspectives and insights to explain relationships; states own position on the question	Accurately identifies conclusions, implications, and consequences with a well-developed explanation; provides an objective reflection of own assertions	
TOTAL:				